A Case of Syncope

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CASE PRESENTATION
An 88-year-old female presented to the emergency department (ED) after a syncopal event. Upon arrival, the patient was awake and complaining of chest pain. An electrocardiogram was performed showing an inferior ST-elevation myocardial infarction (STEMI). Patient’s vital signs were heart rate of 86 beats/minute, blood pressure of 83/50 mmHg, temperature of 98.8 degrees Fahrenheit, respiratory rate of 18/minute, and oxygen saturation 96% while breathing room air. Dorsalis pedis pulses were difficult to appreciate bilaterally and the patient was agitated and diaphoretic. A focused cardiac ultrasound (FOCUS), including a suprasternal notch view (SSNV), was performed (Image 1).

Image 1. Suprasternal notch short-axis view performed on point-of-care ultrasound in elderly patient presenting to the emergency department after a syncopal event; aortic arch (arrow) with dissection flap (stars).

DIAGNOSIS
Ascending aortic dissection (AAD) is a lethal disease that is often misdiagnosed and commonly referred to as the “great masquerader.” Symptoms are often vague, and mortality increases 1-2% per hour with delays in diagnosis. Studies have shown that ED providers are able to identify AAD on FOCUS. Rarely, an AAD presents as a STEMI, and if treated with thrombolysis most patients will die from hemorrhagic complications. While not commonly performed in the ED, SSNV permits visualization of the aortic arch and the origins of the innominate, left common carotid, and the left subclavian arteries (Image 2). It has been shown to be easily obtained by emergency physicians with basic training. Diagnosis of a dissection is suggested by visualization of a flap in the aorta on ultrasound. Ascending aortic dissection is also associated with aortic dilation greater than 4cm.

The technique involves placing a phased array transducer in the suprasternal notch with the indicator aimed toward the patient’s right hip (Image 3).

Use of bedside ultrasound SSNV upon patient arrival resulted in early diagnosis of AAD prior to initiation of anticoagulation and travel to the catheterization lab. The thoracic surgery team was activated to come into the hospital based on this image.

Image 3. Probe positioning for suprasternal notch view with probe indicator pointing towards the patient’s right hip.
REFERENCES


